Steps to Factoring

i) Common Factor

ii) Check — Perfect Square $\sqrt{a} \times \sqrt{c} \times 2 = b$; Difference of Squares $\sqrt{a}$ $\sqrt{c}$

iii) Decomposition — minus in b/h; A | M; a×c

iv) Quadratic Formula

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Factoring

i) $3a^2 + 2a$

$a(3a+2)$

ii) $x^2 + 14x + 40$

$x^2 + 4x + 10x + 40$

$x(x+4) + 10(x+4)$

$(x+4)(x+10)$

A | M: +14 | +40; 4 10

iii) $3x^2 + 9x + 6$

$3(x^2 + 3x + 2)$

$3(x^2 + 2x + 1x + 2)$

$3x(x+2) + 1(x+2)$

$3(x+2)(x+1)$

A | M: +3 | +2; 2 1

iv) $x^2 + 6x + 9$ $\sqrt{x^2} = x$ $\sqrt{9} = 3$ $2 \times x \times 3 = 6x$

$(x+3)^2$

v) $x^2 - 16$ $\sqrt{x^2} = x$ $\sqrt{16} = 4$

$(x-4)(x+4)$

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Factoring Special Cases

Difference of Squares

$(\sqrt{x^2} - \sqrt{49})$

$(x+7)(x-7)$

-ve

no middle term

perfect squares

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$(x^2 - 81)$

$(x-9)(x+9)$

$(x^2 - 121)$

$(x+11)(x-11)$

$(x^2 + 225)$

no factorable

$(9x^2 - 16)$

$(3x-4)(3x+4)$

Feb 25-11:01 AM

Perfect Squares

$\sqrt{\ } \quad \sqrt{\ } \quad \times 2$

$x^2 + 14x + 49$ = middle term

$(x+7)(x+7)$

$(x+7)^2$

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$x^2 + 16x + 64$ $\quad x(8)(2) = 16x$

$(x+8)^2$

$x^2 - 20x + 100$ $\quad (x)(10)(2)$

$(x-10)^2$

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$9m^2 + 42m + 49$ $(3m)(7)(2)$

$(3m + 2)^2$

Homework

q 3,4, 13, 18 p.120

Chapter Self Test p 122

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